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07/946,392 09/17/92 FALK

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EXAMINER

SCHWADRON, M

ART UNIT

PAPER NUMBER

3407

DATE MAILED: 12/28/92

HODGSON RUSS ANDREWS WOODS & GOODYEAR
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This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), _____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- ☒ Notice of References Cited by Examiner, PTO-892.
- ☒ Notice re Patent Drawing, PTO-948.
- ☐ Notice of Art Cited by Applicant, PTO-1449.
- ☐ Notice of Informal Patent Application, Form PTO-152.
- ☐ Information on How to Effect Drawing Changes, PTO-1474.
- ☐ _____

Part II SUMMARY OF ACTION

- ☒ Claims 1-31 are pending in the application.
Of the above, claims _____ are withdrawn from consideration.
- ☐ Claims _____ have been cancelled.
- ☒ Claims 22 and 30 are allowed.
- ☒ Claims 1-21, 23-29, and 31 are rejected.
- ☐ Claims _____ are objected to.
- ☐ Claims _____ are subject to restriction or election requirement.
- ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
- ☐ Formal drawings are required in response to this Office action.
- ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable. ☐ not acceptable (see explanation or Notice re Patent Drawing, PTO-948).
- ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner. ☐ disapproved by the examiner (see explanation).
- ☐ The proposed drawing correction, filed on _____, has been ☐ approved. ☐ disapproved (see explanation).
- ☐ Acknowledgment is made of the claim for priority under U.S.C. 119. The certified copy has ☐ been received ☐ not been received
☐ been filed in parent application, serial no. _____; filed on _____.
- ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
- ☐ Other

EXAMINER'S ACTION

The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to provide an enabling disclosure. In the application as originally filed applicant has failed to disclose the nature and operation of bushing 232 and shaft 234 wherein adjustability of plunger stroke can be obtained.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 7, 9-11, 14, 16 and 17 are rejected under 35 U.S.C. § 102(b) as being anticipated by Ray. Ray discloses an electromagnetic valve structure 12 with inlet port 2 and outlet port 3. A plunger 9 is attached to a disk shaped armature 11 and is electromagnetically actuated by electromagnet 36. The fluid containing chamber 4 is separated from the electromagnetic means 36 by a impermissible diaphragm 19.

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 3 and 4 are rejected under 35 U.S.C. § 103 as being unpatentable over Ray. Using a cap and weld rings to cover the armature would perform the same function as the armature of Ray and it would still resemble the same structure. Thus, having a cap and weld rings would merely be a choice of design.

Claims 5, 20 and 24 are rejected under 35 U.S.C. § 103 as being unpatentable over Ray modified in view of Linssen. Linssen discloses an armature 17 with through passages 25. It would be obvious to one known in the art at the time of the invention to provide the flow passages of Linssen to the Ray armature to allow expedient fluid flow and flexibility of the armature.

Claim 2 is rejected under 35 U.S.C. § 103 as being unpatentable over Ray modified in view of Falk. Falk teaches

Art Unit 3407

that the housing 12 and ports 18 and 20 can be made of titanium to achieve satisfactory results. It would have been obvious to one skilled in the art to use titanium for the housing of Ray since it would provide a material advantage for drug delivery pumps as taught by Falk.

Claims 6, 8, 18, 23, 27, 28, 29 and 31 are rejected under 35 U.S.C. § 103 as being unpatentable over Ray modified in view of Klocke. Klocke discloses a bistable electromagnetic valve which the armature 6 or yoke 2 consist of amorphous metal which can consist of alloys with iron, cobalt, nickel, chromium and molybdenum. It would have been obvious to one skilled in the art to use these materials in the Ray valve since Klocke teaches these materials are advantageous to remagnetize the armature rapidly.

Claim 12 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In lines 3-5 the recitation of a "armature plunger portion comprises a shaft received in said bushing so that the length of the plunger can be changed to adjust the stroke" is unclear how the plunger is adjustable in relation to the bushing. In responding to these rejection applicant is cautioned in regard to the introduction of new matter.

Claim 13 is rejected under 35 U.S.C. § 103 as being unpatentable over Ray modified in view of Hruby. Hruby discloses a filter 32 at the inlet port 22 and a filter screen 35 at the outlet port 29. It would have been obvious to one skilled in the art to use filters in the inlet and outlet ports of Ray since it would be an advantage known in the art to keep debris from entering or exiting the valve structure.

Claim 15 is rejected under 35 U.S.C. § 103 as being unpatentable over Ray modified in view of DuHack. DuHack discloses a rubber seal 32a at the end of armature 31 to sealingly engage with valve seat 30. It would be obvious to one skilled in art to substitute the closure member of Ray with the elastomer tip of DuHack to obtain a more efficient sealing engagement.

Claim 19 is rejected under 35 U.S.C. § 103 as being unpatentable over Ray modified in view of Taxon. Taxon discloses a shim means 141 to adjust the stroke of valve member 122. It would be obvious to one skilled in the art at the time of the invention to use shim means to adjust the stroke of the Ray valve which Taxon teaches to obtain "lift".

Claim 21 and 26 are rejected under 35 U.S.C. § 103 as being unpatentable over Ray modified in view of Fischer. Fischer discloses a flat face 17 having a frusto conical formation diverging away from valve seat 22. It would have been obvious to one skilled in the art at the time of the invention to substitute

Serial No. 946392

-6-

Art Unit 3407

the port of Ray with Fischer's flat face port to establish a firm, reliable, leakproof seal as taught by Fischer.

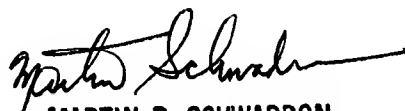
Claim 25 is rejected under 35 U.S.C. § 103 as being unpatentable over Ray modified in view of Klocke further modified in view of Taxon.

Claims 22 and 30 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin Schwadron whose telephone number is (703) 308-2597.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0861.

Thomas M. Sember/Martin Schwadron
December 16, 1992


MARTIN P. SCHWADRON
SUPERVISORY PATENT
EXAMINER
ART UNIT 347